

The Flow

Delivering News from the Carson River Watershed Community

Spring 2014

2014 Andy Aldax Award Recipients

By Debbie Neddenriep, Carson Water Subconservancy District

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In January 2014, Carson Water Subconservancy District (CWSD) Board of Directors presented the 2014 Andy Aldax Carson River Watershed Award for exemplary service in conservation and protection of the Carson River Watershed to Judy Wickwire of Alpine County, California; and Mahmood "Moody" and Genie Azad of Washoe Valley, Nevada. The award, created in 2007, recognizes individuals or organizations that actively demonstrate a 10+ year commitment and accomplish plans and projects to improve and sustain the Carson River Watershed.

Judy Wickwire is an active and tireless volunteer in the Carson River's Upper Watershed in Alpine County. She annually leads volunteer willow planting projects and completes water quality monitoring on the West Fork of the Carson River through Hope Valley. She has served as Hope Valley Steward, Markleeville Creek Day team leader, and Snapshot Day educator. Judy served as Vice President of the Alpine County Fish and Game Commission and was the first woman governor for



Judy Wickwire and Genie Azad accept the 2014 Andy Aldax Award.

Cal Trout. Judy also served as a working member of the team that helped establish the Hope Valley Access Area and currently maintains the access sign for the California Department of Fish and Game (DFG). She is the owner of Horse Feathers Fly Fishing School based at Sorensen's Resort in Hope Valley and is a founding member of High Sierra Flycasters. Judy assists with the Trout in the Classroom Program in Alpine County schools. She is an avid photographer who photo-documents projects for the Alpine Watershed Group, Friends of Hope Valley, and the Historical Society.

Mahmood "Moody" and Genie Azad employed their professional skills toward the protection, enhancement, and health of the Carson River Watershed. Moody, who passed away in 2012, was an avid fisherman with an active love of the outdoors. He

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Drought Could Dry Up Dairy Farmers' Expansion Plans

By Kirk Siegler, National Public Radio

When Pete Olsen talks about drought on his fifth-generation dairy farm in Fallon, Nev., he's really talking about the snowpack 60 miles to the west in the Sierra Nevada. The Sierras, Olsen says, are their lifeblood. That is, the snowmelt from them feeds the Truckee and Carson Rivers and a tangle of reservoirs and canals that make this desert bloom. Some of the highest-grade alfalfa in the world is grown here. And it makes perfect feed for dairy cows, because it's rich in nutrients.

But like much of the far West, northern Nevada is in the grips of a historic drought. The federal government has declared much of the region a disaster area. Snowpack in the Sierra Nevada is at historically low levels. That means feed will be in short supply, which is a big deal, because the alfalfa that's grown here doesn't just stay local. There's demand for it in California, Asia and beyond. "Depending on how bad it is, it could be daunting to try and find all the feed that we need," Olsen says.

Pressure to Grow

This drought's timing couldn't be worse: Farmers like Olsen are under pressure to expand, even double, the size of their herds to meet the demands of a new \$50 million powdered-milk processing plant scheduled to open in Fallon next month. "We're just doing the finishing touches to get the plant up and running here in the next month," says Wesley Clark, the plant's manager, on a recent tour.

He says all of the powdered milk processed here will head directly to the Port of Oakland, then to China, where demand is huge. Right now, local dairies can churn out about 800,000 pounds of milk a day. But once this plant's online, 1.2 million more pounds per day will be needed. That means thousands more cows, and a lot more alfalfa, which is one of the most water-intensive crops.

Does the drought threaten the dairy industry's expansion here? You bet. "We've got customers secured, and customers — they need it now," Clark says. "They need it before we even start." Clark says they've started lining up contracts to bring in milk from outside this drought-stricken region, even though they'd rather not. It's more expensive and the quality isn't as good.

A Burgeoning Dairy Industry

Local and state officials aggressively courted the plant here with tax incentives. Promotional literature touted Nevada as a great place to relocate a dairy to, or expand one. There's that ideal climate for growing alfalfa hay. There's ample water, they said. But this latest drought, and predictions of more like it to come, is raising questions about the long-term viability of farming in the arid West.

"It's hard to believe that we can add a lot more agriculture in Nevada," says Kelly Redmond, a climatologist at the federally backed Desert Research Institute in Reno, Nev. He studies farming and climate in the Great Basin. Redmond says farmers in Nevada are increasingly competing for water with



Powdered-milk processing plant in Fallon, under construction.

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thirsty desert cities like Las Vegas. "That's where the money and the power is," he says. "And ag has sort of given way to this, bit by bit."

Nevada was the driest state in the nation even before this historic drought. And the only reason farming is even possible here is that a century ago, the Bureau of Reclamation built the first ever federally funded dam and diversion project. It allowed water to plunge off the Sierra Nevada and down into farms in Fallon and beyond. "The way ag adjusts is to try to become more efficient, have more efficient types of crops and just make better use of what water there is available for them," Redmond says.

Adapt and Survive

As for dairy farmer Pete Olsen? For now, he's mostly focused on the short term. This spring he'll likely grow less water-consumptive alternatives to alfalfa, such as the grain milo. "It's not something we've had a lot of experience with," he says. "But if we had multiple years like this, this year we're considering it."

Olsen doesn't know how much irrigation water he'll get come spring. He's still planning to expand to meet the demands of the new plant. But he'll do it cautiously. "My dad told me a long time ago, Nevada's a land of extremes, and it's been born out of my experience that he's been right," Olsen says. "We'll be really dry this year, and next year, we'll get one of those gully washer winters where you'll wish it'd stop snowing."



Alfalfa field in Fallon, Nevada.

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worked as a professional engineer for over 25 years in the water resource field. Much of his career was spent in the Carson River watershed working on stormwater management systems, water quality studies, and flood and river restoration/bank stabilization projects. Moody communicated well with people on every level, sharing both his knowledge and enthusiasm for environmental protection.

Genie Azad is a passionate environmental leader with over 17 years of experience in Nevada and Northern California. She shared her knowledge and enthusiasm as CWSD's Watershed Coordinator from 2002-2011. Genie successfully coordinated the Carson River Coalition (CRC) process, helped develop the Carson River Stewardship Plan and the Carson River Regional Floodplain Management Plan, and managed grants for many projects and studies. Genie currently serves as a volunteer board member with River Wranglers, a local watershed education non-profit organization.

CWSD is grateful to these recipients for their many years of dependable and enthusiastic service to the Carson River watershed. To see pictures and learn about past winners, visit our website at <http://cwsd.org/newcms/userpages/AAWinners.aspx>.

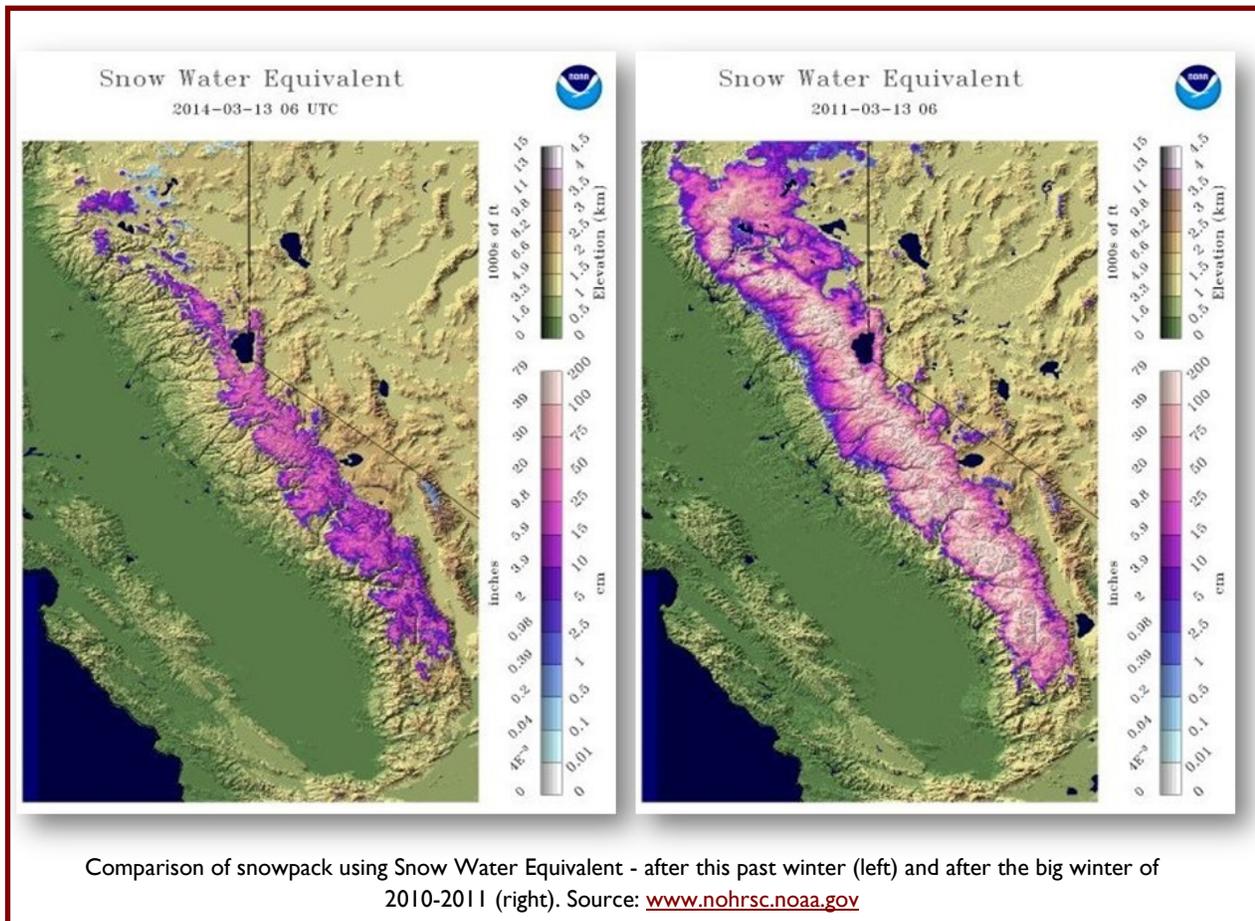
Dry Winter Will Result in Below Normal Streamflows this Summer

By Chris Smallcomb, Warning Coordination Meteorologist, National Weather Service, Reno

It goes without saying this past winter has been disappointing from a snowpack perspective in the mountains feeding the Carson River watershed. As of mid-March the snowpack in the Sierra above 8000 feet was running about 50-65% of normal, with worse numbers below 8000 feet. Much of this snowpack can be attributed to a series of atmospheric river storms in early February. If it weren't for those storms, the water outlook would be radically worse.

The frequency of big storms goes way down in April, compared to what we normally see in winter months; therefore, we're getting close to our normal time of year for the peak snowpack. This year's meager snowpack, barring a series of major storms in April, will yield well below normal streamflow along the Carson River this spring and summer. As of mid-March, the California Nevada River Forecast Center, part of the National Weather Service, is projecting 40-56% of normal streamflow for the upper reaches of the Carson River, and only 25-28% of normal for the river at Carson City and Fort Churchill. Peak flows are forecast to occur from late April to early May.

These low streamflows are likely to increase the intensity and impacts of drought this year throughout the Carson River watershed and for those who depend on its spring runoff. The especially low snowpack below 8000 feet will also increase risks for wildfires this year. Is there any hope for a better winter next year? There has been some talk of El Niño returning but it's much too soon to tell if that will happen with any degree of confidence. Even if El Niño occurs, the impacts to the Carson River watershed are uncertain.



Alpine Watershed Group Seeks Partners to Restore Section of East Fork Carson River

By Shane Fryer, Alpine Watershed Group

The riparian habitat and banks along the East Fork of the Carson River in Alpine County are being negatively impacted by off-road vehicle use. Specifically, the reach between the Silver Creek confluence and Hangman's Bridge is experiencing riparian habitat loss, bank erosion and associated water quality impacts. The Alpine Watershed Group, in partnership with Alpine County, the US Forest Service\Humboldt – Toiyabe National Forest, and Friends of Hope Valley, is pursuing a restoration grant for this reach of the East Fork from California State Parks' Off-Highway Motor Vehicle Recreation program.

If funding is received, the project will protect the river by delineating vehicle access and restoring riparian habitat areas that are impacted by off-road motorized vehicles. All restoration sites are located on Alpine County or National Forest lands.

The Alpine Watershed Group is actively seeking partners who want to be a part of the project. If you would like more information or are interested in becoming a partner, please contact Shane Fryer at:

awg.shane@gmail.com, or visit: www.alpinewatershedgroup.org



East Fork of the Carson River in Alpine County.

The Carson River Coalition presents the
Carson River Watershed Forum

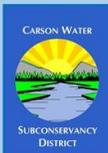
April 3, 2014



Topics include:

- *Water Quality*
- *Water Supply*
- *Environmental Education*
- *Habitat*
- *Invasive Species*
- *Floodplain Protection*

To register go to 2014 Calendar at www.cwsd.org
Contact Brenda Hunt 775-887-9005 or brenda@cwsd.org



Check-in starts at 8:15 am
9:00 a.m. to 3:30 p.m.
Ruvo Hall

Nevada Governor's Mansion

606 Mountain Street, Carson City

Parking available on the surface streets around the mansion



This project will benefit Alpine County visitors, fly fishermen, motorized recreationalists and our treasured watershed. The rehabilitation efforts will:

- Preserve vehicle access to this reach in designated areas,
- Rehabilitate impacted riparian habitat which, reduces silt/erosion and other water quality impacts,
- Improve the quality of this important trout fishing reach,
- Enhance visitors' experiences along this reach, and
- Create and maintain strategic partnerships in the protection of this California designated Wild and Scenic River.

The proposal is currently in the initial stage of the grant application. The final proposal is due May 2nd and the project will involve public outreach, planning and implementation. We'll keep you posted!

US Geological Survey (USGS) Work in Carson River Watershed

Provided by Dave Berger, Chief, Northern Nevada Hydrologic Studies, USGS



CWSD appreciates the great work being done by the USGS in our watershed. Dave Berger provided a brief description of current work being conducted. We invite you to learn more about these projects by visiting the Nevada Water Science Center, U.S. Geological Survey, at <http://nevada.usgs.gov/>.

Historic Flood Chronology and Database

The USGS maintains a historic flood chronology website for the Carson River basin and is nearing completion of a similar website for the Walker River basin. The main focus of these websites is to provide user-friendly access to historic flood information that will help Nevada communities in understanding the extent and frequency of flood hazards and flood risks in selected watersheds.

Carson River Algae Study

The USGS is completing a four-year study on estimating the contribution of nitrogen from groundwater along a 1.6 mile reach of the East Fork Carson River in Carson Valley. This study is designed to improve the understanding of the interaction between surface water and groundwater and the role groundwater discharge to the stream plays in algal growth during low flow conditions in the summer months.

Carson Valley Water Quality and Groundwater Monitoring

The USGS is continuing to monitoring groundwater levels and collect water quality data throughout the year for information that defines the hydrologic conditions throughout the Carson Valley groundwater basin. Accurate data from these activities provide information for hydrologic accounting of the quantity and quality of the Carson Valley groundwater resources.

Clear Creek Monitoring Study

The USGS is continuing to monitor sediment and selected water quality characteristics in the Clear Creek watershed in Eagle Valley for the Nevada Department of Transportation. Three sites are monitored for streamflow, suspended and bed sediment, major ion chemistry, trace elements, nutrients, dissolved oxygen, pH, specific conductance, alkalinity, and petroleum hydrocarbons.

Dayton Valley Study

The USGS is monitoring the groundwater levels and Carson River water levels within Dayton Valley to examine temporal change in surface water and groundwater relationships. Additionally, bulk precipitation and groundwater quality is monitored in Mound House, Dayton, Carson Plains, and Silver Springs areas.

Newlands Monitoring Study

The USGS is monitoring groundwater levels in areas of land-use and management change within Churchill County. The primary focus of the monitoring network is the shallow aquifer, 0 to 50 feet below land surface, and the basalt aquifer, the principal source of the municipal water supply for the area. Monitoring includes the collection of groundwater-quality samples from aquifers used for domestic and municipal supply.

Stillwater National Wildlife Refuge Water Quality Study

The USGS is monitoring the chemical quality of inflow and bottom sediment of channels that deliver water to Stillwater National Wildlife Refuge. This study will provide information needed to assess how water rights acquired for the Refuge are affecting water quality. The Nevada Department of Agriculture will also analyze samples for the presence of pesticides.

Lahontan Watercraft Inspections

By Tony Beauregard, Nevada State Parks

In 2014, Lahontan staff will again be operating our boat inspection stations. Starting May 2nd, inspections for aquatic invasive species will be required prior to launching in the lake. The purpose is to prevent invasive species, like Quagga mussels, Asian clams and New Zealand mud snails, from entering Lahontan Reservoir. Invasive plants, like milfoil, will also be a focus of the inspections.

When entering the park, signs will direct boaters to the station where their boat will be inspected, and they will be given a short survey to take. Boat inspections typically take 10 to 15 minutes if the boat is clean, drained and dry. Decontaminating a wet or dirty boat usually takes 30 minutes and up to 90 minutes for large boats or wake board boats with wet ballast tanks. Inspections are free, but each boat will require a Nevada AIS sticker along with a current



2013 boat inspection training at Lahontan State Recreation Area.

registration sticker. Boat registration and the AIS sticker can be purchased at any NDOW office or online at www.ndow.nv.gov. Non-motorized boats, like kayaks and canoes, also require inspection and an AIS sticker. For information about sticker requirements please contact NDOW.

Boats leaving Lahontan can obtain a wire tag that will allow the boater to re-enter Lahontan without further inspection, if the wire remains intact upon re-entry.

Quagga mussels and other invasive species, can be devastating to water lines, boat intakes, props, and create damage to fisheries. In the Lake Mead Recreation Area, boaters spend thousands of dollars on boat repairs and decontaminations. Repairs and decontaminations have cost Lake Mead millions. We hope to prevent that at Lahontan Reservoir.

Inspection stations like the ones at Lahontan, Rye Patch, Wild Horse Reservoir, and Lake Tahoe hope to educate boaters and prevent the spread of these damaging invasive species. The key to prevention is to Clean, Drain and Dry your boat each time you leave a body of water.



**Get on the Bus
Watershed Tour 2014
June 11 & 12, 2014
8:30 a.m.—4:30 p.m.**

Headwaters to the Terminus

The Carson Water Subconservancy District invites you to join us on a tour of the Watershed! We'll spend two days seeing and discussing the programs, projects, and studies being accomplished throughout the watershed. You'll hear about noxious weeds, aquatic invasive species, river projects, and what's on the horizon!

Download a registration form
www.cwsd.org.

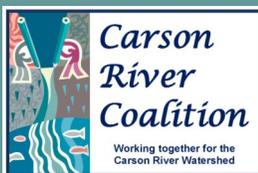
We are seeking sponsorships for lunches and snacks! Please contact Toni at 775-887-7450.

Save a Stamp!
Sign up for
CWSD's e-blast
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newsletter copy.
cwsd@cwsd.org

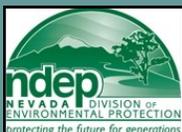
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Thanks to Staff &
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Kirk Siegler
Chris Smallcomb
Shane Fryer
Dave Berger
Tony Beauregard



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UPCOMING EVENTS

Carson River Coalition 2014 Forum:
April 3, 2014, Carson City, NV. Registration is \$10, including lunch. www.cwsd.org.

Water Education Teacher Workshop
April 16, 23, 30 & May 7, Genoa, NV.
Learn how to address Next Generation Science Standards in the classroom using Project WET. <http://www.ndep.nv.gov/edu/>

Fallon Earth Day Celebration
April 19, 2014, 10am, Fox Peak Station., Fallon, NV, Hosted by Fallon Paiute-Shoshone Tribe Environmental Department, 775-423-0590

Spring Wings Festival
April 25-26, 2014, Churchill County Fairgrounds, Fallon, NV. Participate in the annual celebration of shorebird and waterfowl migration through the Lahontan Valley of north-central Nevada. www.springwings.org.

Washoe Tribe Earth Day Celebration
May 3, 2014, 10am-2pm, Carson Colony Senior Center, 401 Washoe St., Carson City, NV. 775-265-8680 for more information.

UPCOMING EVENTS

Weed Warrior Basic Level Training
May 20-21, 2014. Locations:
Live at UNCE: 4955 Energy Way, Reno
Via video at: UNCE: 2621 Northgate Lane, Suite 15, Carson City and 1325 Waterloo Lane, Gardnerville, cost \$50. 775-336-0247

Friends of Hope Valley Willow Planting
June 7-8, 2014, 9am., Pickett's Junction Highway 88/89 Hope Valley.
<http://www.friendsofhopevalley.org/events.html>

Get on the Bus Watershed Tour
June 11 & 12, 2014, 8:30am-4:30pm. Carson River Watershed, www.cwsd.org

Carson River Watershed Invasive Species Awareness Month, June 2014. www.cwsd.org

Sierra Water Work Group Summit 2014
June 12-13, 2014, North Tahoe Event Center, Kings Beach, CA www.sierrawaterworkgroup.org/

Carson River Festival at Oodles of Noodles
June 21, 2014, Dayton Valley, NV
www.facebook.com/riverwranglersnv

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